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EXAMINER	
REVAK, CHRISTOPHER A	
ART UNIT	**PAPER NUMBER**
2131	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/476,612	DIAMANT, NIMROD	
	Examiner	Art Unit	
	Christopher A. Revak	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *see attached*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's amendments and arguments filed July 29, 2005 have been fully considered but they are not persuasive.

The applicant argues that the teachings of Mahalingam discloses of disabling the primary NIC if errors are detected and the teachings of Mahalingam fail to disclose of "two or more network interfaces operating in parallel". The examiner respectfully disagrees with the applicant's interpretation of Mahalingam. Yes, the statement made by the applicant is true that Mahalingam does disclose of disabling a primary NIC if an error is detected, but in another embodiment, it is disclosed that network traffic is load balanced between a plurality of network interface cards, please refer to column 2, lines 42-46 and as shown in Figure 1, items 18, 20, and 22. The load balancing is interpreted as operating in parallel since the network interface devices share processing and it is shown that the devices operate side-by-side as shown in Figure 1.

The examiner encourages the applicant to contact the examiner to arrange a telephonic interview upon receiving this office action in an attempt to overcome the teachings of Mahalingam.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahalingam et al, U.S. Patent 6,052,733 in view of Anand et al, U.S. Patent 6,141,705.

As per claims 1 and 8, it is disclosed by Mahalingam et al of method and accessible medium having instructions, when accessed by a machine, directs the machine to perform tasks (col. 1, lines 37-40 and col. 18, lines 36-40). A team of network interface cards are shared and used for processing by the team for primary use processing (col. 2, lines 24-30). The NIC use load balancing to share processing across the plurality of NICs that operate in parallel (col. 2, lines 42-46 and as shown in Figure 1). A network interface card (NIC) is chosen as the primary network interface card (col. 5, lines 1-3 & col. 8, lines 55-59), which is interpreted by the examiner as assigning processing of the data to a first member. When it is determined that the primary network interface card (first member) is faulty (lacks the capability for processing the data), a functional (having the capability) secondary network interface card (second member) is given the tasks and appointed the new primary network interface card to process the data (col. 5, lines 29-44). Mahalingam et al discloses of selection of a NIC that is less loaded than at least one other NIC in the plurality of NICs

(col. 15, lines 29-34) whereby the examiner is interpreting this to mean that the other NICs are heterogeneous, or perform different tasks. The transition from the failed primary network interface card (first member) to the secondary network interface card (second member) is a transparent fail-over process to the client computer (col. 5, lines 3-8 & col. 6, lines 20-23). The teachings of Mahalingam et al are silent in disclosing of secondary use processing. It is disclosed by Anand et al of offloading tasks to network interface cards, which can perform many other tasks otherwise performed by the computer CPU in software (col. 3, lines 5-8). Anand et al teaches secondary use processing of data (i.e. rather than perform certain of the CPU intensive operations on the data packet as it passes through the respective network layers--e.g. checksum calculation/verification, encryption/decryption, message digest calculation and TCP segmentation--those tasks can instead be offloaded and performed at the NIC hardware)(col. 3, lines 39-44). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have been motivated to modify the system of Mahalingam et al with the teachings of Anand et al to include secondary use processing of with the motivation of increasing the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

As per claims 2 and 9, Mahalingam et al teaches that network interface cards have Media Access Control (MAC) address (col. 19, lines 47-50). The MAC address of the secondary network interface card (second member) is set as the primary network interface card (first member) of the team (col. 2, lines 24-34 & col. 19, lines 5-8,30-35).

As per claims 3 and 10, it is taught by Mahalingam et al that network interface cards have Media Access Control (MAC) address (col. 19, lines 47-50). The MAC address of the secondary network interface card (second member) is temporarily set to the MAC address of the primary network interface card (first member) of the team (col. 2, lines 24-34 & col. 19, lines 5-8,30-35). The secondary network interface card performs transparent processing on behalf of the primary network interface card (first member)(col. 5, lines 3-8 & col. 6, lines 20-23).

As per claims 4 and 11, it is disclosed by Mahalingam et al of distributing processing is determined according to a workload of each of said team of network interfaces (i.e. the system selects a network interface card (NIC) to send out packets from the plurality of NICs according to an algorithm specific to one embodiment of the invention. Some embodiments of the invention will choose a NIC that is less loaded than at least one other NIC in the plurality of NICs) supporting the transparent fail-over (capability)(col. 6, lines 20-23 & col. 15, lines 29-34).

As per claims 5 and 12, the teachings of Anand et al are relied upon for the usage of secondary processing such as encryption of data (col. 3, lines 39-44). Please refer to the motivation recited above why it is obvious to apply the teachings of Anand et al to the teachings of Mahalingam et al. It is understood by the examiner that IPSEC encryption is included in any realm of encryption.

As per claims 6 and 13, the combination of Mahalingam et al and Anand et al teach the system of claims 1 and 8 as discussed above. The teachings of Mahalingam et al do not teach receiving data for secondary use processing from an operating

system. Anand et al teaches that the Operating System can request that a peripheral perform the previously enabled task, or tasks, in a dynamic, as-needed basis, depending of the then current processing needs of the computer system (col. 3, lines 20-23). Therefore it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the system of Mahalingam et al with the teachings of Anand et al to include receiving data for secondary use processing from an operating system with the motivation of increasing the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

As per claims 7 and 14, the combination of Mahalingam et al and Anand et al teach the system of claims 1 and 8 as discussed above. The disclosure of Mahalingam et al does not teach receiving data for secondary use processing from an application programming interface (API) configured to submit data for secondary use processing by said team. Anand et al teaches that for every external function that a NIC driver needs to perform, from registering and intercepting NIC hardware interprets to communicating with transport protocol drivers to communicating with an underlying NIC via register manipulation and port I/0, it can rely on NDIS APIs to perform the function (col. 8, lines 57-60). The Examiner interprets receiving data for secondary use" as one of the external functions that a NIC driver needs to perform. Therefore it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the system of Mahalingam et al with the teachings of Anand et al to include receiving data for secondary use processing from an API (i.e. NDIS APII configured to submit data for secondary use processing by said team with the motivation of increasing

the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

As per claims 15 and 21, it is disclosed by Mahalingam et al of method and accessible medium having instructions, when accessed by a machine, directs the machine to perform tasks (col. 1, lines 37-40 and col. 18, lines 36-40). A team of network interface cards are shared and used for processing by the team for primary use processing and perform adaptive load balancing (col. 2, lines 24-30,42-49). Active and failed network interfaces of the team are identified (col. 7, lines 1-11). Data is received by the team for processing and as long as the primary network interface card is functional, it is processed by the primary component (col. 7, lines 34-46). When it is determined that the primary network interface card (first member) is faulty (lacks the capability for processing the data), a functional (having the capability) secondary network interface card (second member) is given the tasks and appointed the new primary network interface card to process the data (col. 5, lines 29-44). The transition from the failed primary network interface card (first member) to the secondary network interface card (second member) is a transparent fail-over process to the client computer (col. 5, lines 3-8 & col. 6, lines 20-23). The teachings of Mahalingam et al are silent in disclosing of secondary use processing being performed by distributing processing. It is disclosed by Anand et al of offloading tasks to network interface cards, which can perform many other tasks otherwise performed by the computer CPU in software (col. 3, lines 5-8). Anand et al of offloading tasks to network interface cards, which can perform many other tasks otherwise performed by the computer CPU in software (col. 3, lines 5-

8). Anand et al teaches secondary use processing of data (i.e. rather than perform certain of the CPU intensive operations on the data packet as it passes through the respective network layers--e.g. checksum calculation/verification, encryption/decryption, message digest calculation and TCP segmentation--those tasks can instead be offloaded and performed at the NIC hardware)(col. 3, lines 39-44). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have been motivated to modify the system of Mahalingam et al with the teachings of Anand et al to include secondary use processing of with the motivation of increasing the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

As per claims 16 and 22, it is taught by Mahalingam et al of loading a driver (i.e. MULTISPAN for said team, said driver configuring said team to operate in the adaptive load balancing mode (i.e. sharing traffic load among all NICs in a group) (col. 2, lines 41-44 & col. 4, lines 34-46) and appear to be a single network interface (i.e. the inventions identifies one NIC, called the primary, by which the entire group is identified) (col. 4, lines 8-10).

As per claims 17 and 23, it is disclosed by Mahalingam et al of distributing processing is determined according to a workload of each of said team of network interfaces (i.e. the system selects a network interface card (NIC) to send out packets (portions) from the plurality of NICs according to an algorithm specific to one embodiment of the invention. Some embodiments of the invention will choose a NIC

that is less loaded than at least one other NIC in the plurality of NICs) supporting the transparent fail-over (identified capability)(col. 6, lines 20-23 & col. 15, lines 29-34).

As per claims 18 and 24, the combination of Mahalingam et al and Anand et al teach the system of claims 15 and 21 as discussed above. The teachings of Mahalingam et al do not teach receiving data for secondary use processing from an operating system. Anand et al teaches that the Operating System can request that a peripheral perform the previously enabled task, or tasks, in a dynamic, as-needed basis, depending of the then current processing needs of the computer system (col. 3, lines 20-23). Therefore it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the system of Mahalingam et al with the teachings of Anand et al to include receiving data for secondary use processing from an operating system with the motivation of increasing the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

As per claims 19 and 25, the combination of Mahalingam et al and Anand et al teach the system of claims 15 and 21 as discussed above. The disclosure of Mahalingam et al does not teach receiving data for secondary use processing from an application programming interface (API) configured to submit data for secondary use processing by said team. Anand et al teaches that for every external function that a NIC driver needs to perform, from registering and intercepting NIC hardware interprets to communicating with transport protocol drivers to communicating with an underlying NIC via register manipulation and port I/0, it can rely on NDIS APIs to perform the function (col. 8, lines 57-60). The Examiner interprets receiving data for secondary use" as one

of the external functions that a NIC driver needs to perform. Therefore it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the system of Mahalingam et al with the teachings of Anand et al to include receiving data for secondary use processing from an API (i.e. NDIS APII configured to submit data for secondary use processing by said team with the motivation of increasing the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

As per claim 20, the combination of Mahalingam et al and Anand et al teach the system of claims 15 and 21 as discussed above. The teachings of Mahalingam et al do not teach receiving data for secondary use processing from an operating system. Anand et al teaches that the Operating System can request that a peripheral perform the previously enabled task, or tasks, in a dynamic, as-needed basis, depending of the then current processing needs of the computer system (col. 3, lines 20-23). Therefore it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the system of Mahalingam et al with the teachings of Anand et al to include receiving data for secondary use processing from an operating system with the motivation of increasing the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

The disclosure of Mahalingam et al does not teach receiving data for secondary use processing from an application programming interface (API) configured to submit data for secondary use processing by said team. Anand et al teaches that for every external function that a NIC driver needs to perform, from registering and intercepting

NIC hardware interprets to communicating with transport protocol drivers to communicating with an underlying NIC via register manipulation and port I/0, it can rely on NDIS APIs to perform the function (col. 8, lines 57-60). The Examiner interprets receiving data for secondary use" as one of the external functions that a NIC driver needs to perform. Therefore it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to further modify the system of Mahalingam et al with the teachings of Anand et al to include receiving data for secondary use processing from an API (i.e. NDIS APII configured to submit data for secondary use processing by said team with the motivation of increasing the efficiency, speed and throughput of the overall system as is recited by Anand et al (col. 2, lines 51-52).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Revak whose telephone number is 571-272-3794. The examiner can normally be reached on Monday-Friday, 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Revak
Primary Examiner
AU 2131

10/13/05

CR

October 13, 2005